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ABSTRACT

The potential usefulness of an intermittent ladder curriculum for educating health professionals in the Middle East and Africa was evaluated. Intermittent education would allow students to complete a lower educational qualification abroad and then enter the job market at home for some years before continuing with additional, higher education abroad. This approach might help prevent students from remaining in the educational host country and thus would combat brain drain from developing to developed countries. Thirty-two questionnaires were returned from ministries of education and health, university officials, students, and a health consultant. The majority of respondents felt that the most useful periods for students to return home would be either between the bachelor's and the master's degree or between the master's and the doctoral degree. Twenty-nine respondents felt that intermittent education would help combat brain drain. Nine brief case studies are presented of students who have undertaken intermittent education while preparing for advancement in the medical laboratory field in a developing country. The questionnaire is appended. (SW)

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PRACTICALITY OF INTERMITTENT LADDER-LEVEL PROGRAMS FOR HEALTH PROFESSIONALS IN THE MIDDLE EAST AND AFRICA

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THE STUDY

The study " Practicality of Intermittent Ladder-Level Programs for Health Professionals in the Middle East and Africa" was undertaken to evaluate whether an intermittent ladder curriculum can serve as a model for providing relevant education in the U.S. for international students from developing countries. Intermittent education indicates that students complete a lower educational qualification abroad and then enter the job market at home for some years before continuing with additional, higher education abroad. We believe that such an educational approach could prevent students from remaining in the educational host country. This study approach thus combats brain drain from developing to developed countries.

With a grant from the National Association for Foreign Student Affairs (NAFSA) we undertook a survey of students, educators, and government officials in Ministries of Education and Ministries of Health in Africa and the Middle East to determine whether these groups of respondents agree that there is a possibility of alleviating the problems of student brain drain by encouraging the ladder level approach to study abroad.

We selected these two geographic areas because NAFSA encouraged us to narrow the focus of the study and because the Medical Laboratory Science programs in our home institution, Northeastern University, in recent years had admitted the largest numbers of students from these two regions.The focus was placed on health programs, because this is the study area with which we are currently concerned.

OUR TERMINOLOGY

Our terms are defined as follows:

Brain Drain

> The migration of graduates, generally from a developing to a developed country, which results in a gain in professional skills in the receiving country and a loss in the sending country

Ladder-Level Approach to Study

Programs of study leading from lower levels of education to higher levels in a progressive pattern, i.e.

Associate's degree -- 2 years
Bachelor's degree -- additional 2 years
Master's degree - additional 1-2 years
Doctoral degree - additional 2-4 years

Intermittent Education

We focus here on the alternation of education and work over the whole educational cycle, a concept which has been generally referred to as recurrent education. We are not focusing on Cooperative Education or Sandwich Education in this context, because both these terms refer to the alternation of education and work as a degree requirement within a specific curriculum, such as a bachelor's degree.

THE BACKGROUND

Migration of talent from one country to another for study and for work is nothing new. During various periods of history, scholars have migrated to different parts of the world in search of greater knowledge. For instance, the Spanish universities attracted great numbers of international scholars at the end of the Moorish period. These scholars studied and translated the Arabic and other works, collected in Spain during the Moorish reign that had preserved the collective knowledge of the Greek Latin, and Middle Eastern civilizations, feared lost following the fall of Rome. As a result these scholars started a period of unprecedented intellectual growth in Western Europe.

Similarly, the influence on U.S. education of the scholars who flocked to Germany during the 19th Century and came back with new ideas and new approaches to study and research has been acknowledged by all. This was study abroad and it was considered a benefit to the sending countries.

So why are we today referring to the migration of talent as a problem? And why do we label it brain drain, a pejorative term? How important is the issue in financial and social terms?

Brain Drain-- a Problem

The 1978 UNITAR (United Nations Institute for Training and Research) study The Brain Drain (Glaser, 1978)listed in its bibliography 232 articles and books from the period 1965-77 on the subject. These were mainly English-language titles. A 1973 German study (Schipulle,1973), provocatively titled "Selling the Intelligence from the Developing Countries?" included some 600 articles and studies in its bibliography. It is thus an issue that has been giving concern. In the intervening years, there have been no similar large-scale studies, but a great number of references has been made to the brain drain as a continuing problem. Just this Winter The Times Higher Education Supplement complained that "First class brains book up for transatlantic flight", referring to a recent UK study , which indicates that up to 25% of faculty in certain academic departments have left the UK for the US in the past five years(THES Jan.30,1987,1)-- See also our bibliography.

What are some of the reasons why migration is termed brain drain?

Firstly, we are talking unprecedented numbers today. The 300,000 plus international students in the U.S. today exceed the population of many nations, such as Iceland. And the U.S. is not the only country receiving international students. For instance, some 72,000 internationals study in Germany while 22,000 German students travel abroad. Over 80,000 international students attend universities in the USSR, and Britain and France receive some 60,000 students each, just to mention those countries with the largest numbers of internationals. Although the majority of these students come from developing countries, a substantial number also reflects exchanges among developed countries. As an example, almost half of Germany's international students come from Europe, East or West.

So we have students in the hundreds of thousands flocking to the universities in the industrialized world. How many of these remain and become part of the brain drain statistics? Figures are not always clear. The question seems to be downplayed both by the sending and the receiving countries. Estimates are that some 15% of the international students remain in the U.S. This would be some 45,000 students of the 300,000 currently here. Not a large enough figure to worry about? It is when we realize that the total university population in Chad and many other developing countries is 1000-2000 students. The loss of even 4-5 students

thus can be a major problem, both economic and social. As an example, the opening of one technical school in Pakistan was held up for four years because of the migration of one man (Ditchley, 14).

Secondly, the current levels of migration have important financial implications. For instance,it has been estimated that in India, 30% of medical graduates migrated annually in the 1970s (Schipulle p.134) The cost of their training was formidable to a poor country, such as India. According to WHO estimates, the 15,000 doctors that left India in 1980 had cost the country $140,000,000 (RIHED Bulletin 10:4, 18). Similarly, Colombia lost an amount equal to 4.4% of its total national income in 1967 in wasted educational costs for those graduates who had migrated between 1955 and 1968.(Schipulle,337 ff.) This is a disturbing figure when we realize that most countries expend only 1-3% of their annual income on higher education per year.

Not everybody sees migration as a problem. Some feel that the loss of a certain number of dissatisfied intellectuals helps prevent unrest and revolutions in the home country. On the other hand, it has also been suggested that frustrated intellectuals may be exactly what is needed in some countries to help break down the social and political barriers to development (Ditchley, p.14).

Brain Drain-- an Individual Issue

Two important aspects to look at in this regard are: what motivates an individual to migrate and what has been done so far to alleviate problems of migration?

Motivation for Migration (See Schipulle 62-174)

Most researchers seem to agree on a number of specific motivational factors (referred to as Push and Pull factors)

Pull Factors (from the developed country)

1. Demand for manpower (especially in fields such as engineering, medicine, computers) in the industrialized countries. Immigration saves on expansion costs in the country's universities and also preserves the status quo in the enrollment of groups such as women and, in some cases, minorities.
2. Immigration laws in countries such as the U.S. and U.K. favor the highly educated
3. Higher salaries in the industrialized countries and better research facilities attract graduates from abroad
4. The developed country offers greater social mobility or greater freedom for minorities
5. The developed country offers better career prospects

Push factors (from the developing countries)

1. Low capacity to absorb graduates due to slow economic growth
2. Too many graduates for the wrong level jobs (too many engineers when the need is for technicians)
3. Salary structure (Secondary school teachers in the U.S. make substantially more than medical doctors in some countries)
4. Problems of social mobility and political and academic freedom
5. Poor career prospects and lack of facilities and funding for research

Suggested remedies

Some of the remedies that have been recommended to combat the brain drain include

1) U.S. and other developed countries should give aid to update the educational systems in developing countries. (This has been done but is partially offset by the costs of migration)
2) Developed countries should change their immigration policies to force graduates to return
3) Receiving countries should compensate the sending countries for their educational outlay for each emigrant
4) Arrange better repatriation agreements -- require that students return for specific periods on graduation
5) Help the graduates to overcome professional isolation on return (Ditchley, 18-22,Goodwin and Nacht)

These remedies do not address the indvidual's motivation to remain in the host country which, in addition to being influenced by the Push and Pull factors listed above, also often stems from alienation from the home country during the period of study. It has been found that the more ties the student has to the home country, the more likely he/she is to return home on graduation (Schipulle 294-297).

Among factors inhibiting migration are mentioned:

-- shorter study periods: students more likely to return after study lasting 1-2 years
-- students on repayable scholarships are more likely to return
-- students on leave from a job are more likely to return
-- contacts with employers at home during the study period help students return
-- close ties with compatriots and home country clubs on campus
-- marriage to a national and children from that marriage

It thus seems that ties that relate to the job market and direct job prospects are important.

WHY WOULD THE LADDER LEVEL APPROACH HELP?

Our ladder level proposal maximizes the ties to the home country. By returning home after completion of a first degree, graduates have a chance to integrate into their profession at home. They learn about the needs and the possibilities for growth in the profession. When returning abroad for a higher degree, the graduate is thus able to pinpoint more clearly the structure of the degree needed to maximize his/her career advancement at home. A graduate who is already a professional in his home country better understands the needs for forming ties with collegues, associations and suppliers in the country of study. Such a graduate thus will make a more mature contribution on return to the home country.

METHODOLOGY OF THE STUDY

Cover letters and questionnaires(See appendices A, B, and C) were mailed to health professionals, educators and students in Africa and the Middle East as follows:

67 Ministries of Health in Africa and the Middle East
67 Ministries of Education in Africa and the Middle East
4 Medical Laboratory Science professional societies in Africa
35 personal contacts in the target populations in Africa and the Middle East
54 Present and former visitors in the target groups to the Center for International Higher Education Documentation
63 African and Middle Eastern health professions students
6 International health professions alumni from Africa and the Middle East

Thus a total of 296 questionnaires were mailed.

RESULTS

The total response was 32 questionnaires from the targeted African and Middle Eastern groups. This represents slighly more than a 10% return. The importance of the answers, however, lies not in the numbers but in the background of the respondents, most of whom have responsibilities in policy making areas relative to education and development:

- 9 responses from 9 Ministries of Education: Burkina Faso, Jordan,Kenya, Rwanda, Saudi Arabia, Syria, Tanzania, Zambia,and Zimbabwe;

- 9 responses from 8 Ministries of Health: Bahrain, Ethiopia, Kuwait, Malawi, Mauritius, South Africa,the Sudan and Zimbabwe.

Since there was only one country responding in both categories -- Zimbabwe -- we received responses from 16 different countries.

In addition we received:

- 7 responses from 2 African and 5 Middle Eastern University Officials
- 5 responses from 1 African and 4 Middle Eastern students
- 1 response from an African health consultant

All the students who responded are current Medical Laboratory Science students at Northeastern University in Boston. It is generally very difficult to get the cooperation of international students in completing questionnaires. Previous experience by the authors is that only a few students in these groups are concerned about issues of reentry while studying in the U.S.

SUMMARY OF RESPONSES*
by question (See appendices)

*All respondents did not answer all questions

(2) Useful to return home after each stage of study

YES	28
NO	4

- Between Associate and Bachelors degree	6
- Between Bachelor's and master's degree	18
- Between master's and doctorate	18
- At all three levels	5

(3) Which health professions are suitable for this approach?

All	12
Medical Lab.science	9
Nursing	7

(Others mentioned: medicine, health education, pharmacy)

(4) By returning home between studies, are there

Short term benefits	YES	17	No	4
Long-term benefits	YES	22		4

(5) Is there any negative impact of this approach?

Short term impact	YES 9	NO 17
Long term impact	YES 6	NO 16

(6) When does the approach give the greatest return?

After short periods of study abroad	YES	17
After long periods	YES	5
No difference		7

(7) Intermittent education helps integrate what students learn abroad

Agree	28
Disagree	3
No opinion	1

(8) Is there a government policy SUPPORTING intermittent education in your country?

YES	14
NO	18

(9) Is there a policy PREVENTING intermittent education? in your country?

YES	3
NO	28

(10) Indicate your overall support for the concept

YES	29	
NO	3	(Malawi
		(Lebanon - expatriate)
		(Sudan - government regulations prohibit)

Discussion

Question 2

The majority of respondents felt that the most useful periods for students to return home would be either between the bachelor's and the master's degree or between the master's and the doctoral degree. A handful (5) felt that this approach already would be useful following the associate's degree and an almost similar number (6) felt that the program would be helpful at all levels. This indicates an overwhelming support for the idea. Our case studies report on students who already have implemented the

approach in their own lives, most without the benefit of government planning or support. This shows that this educational approach could be implemented on a small scale by close collaboration between individual students and government planning or scholarship agencies.

Question 3

A small majority indicated that the approach would be useful in all health professions fields. The remainder of the respondents favored one or the other field, generally reflecting their own profession.

Question 4

Responses regarding the general short- and long term benefits of the approach indicated overwhelming belief in the benefits of the approach both in the short- and the long term. The negative responses were the same as in question 2 and reflected, among others, a graduate who has joined the brain drain statistics.

Question 5

Responses were not as clearcut on this point.Nine respondents felt that there might be a negative impact of the approach in the short run, while six respondents worried about negative effects in the long run. The majority of respondents felt, however, that there would be no negative effects in either the short or the long term.

Question 6

Regarding the possibility of brain drain occurring after either short or long stays abroad the response was strongly in favor of shorter study abroad periods. While 19 respondents indicated that the return to the home country would be more likely after short study periods; 7 respondents felt that the length of time would make little difference and 5 respondents felt that graduates would be more likely to return to their home country after a long absence.

Question 7

Does intermittent education help integrate what the students learn? The response here was almost unanimous. 28 respondents felt that this was the case; 3 disagreed with the idea and felt that the approach would not assist graduates to integrate their education more profitably.

Question 8

Fourteen respondents indicated that their governments had in place policies that support intermittent education. Eighteen respondents did not see any policies that supported the approach in their countries.

Question 9

The majority of respondents did not see any policies that outright prevent the approach, while 3 stated that policies of their countries did not support the concept.

Question 10 - Overall support for the concept

The majority -- 29 respondents -- indicated that they look favorably on this approach as an aid to combating Brain Drain. Three respondents -- from Malawi, Lebanon and Sudan -- were not willing to give their support to the idea, either because of personal conviction or because of current government policy that hinders such a study approach.

From the above responses and from anecdotal data , we can identify 11 countries as having policies that support intermittent education (Bahrain, Burkina Faso, Ethiopia, Iraq, Ivory Coast, Jordan, Kuwait, Malawi, Saudi Arabia, Rwanda, Zambia).

Information from Rwanda indicates that it has in practice both policies that support and prevent the concept. Rwanda only sends students abroad for education in areas and at levels for which Rwanda does not currently have programs. Students are thus only sent abroad if they are already in the profession.

Sudan is the only country that stated that there is a policy in effect that definitely prevents implementation of intermittent education. In order to give as many students as possible an opportunity to study abroad, repeat opportunities for study abroad by any one individual is unlikely. A student would thus need to complete the highest possible level of study before returning home.

PROBLEMS OF THE STUDY

The major problem of the study is the low response rate. With responses from a total of 16 countries out of the 67 eligible, it is difficult to know whether the overwhelming support for the intermittent ladder-level concept among our respondents (29 vs. 3

respondents) is a result of the fact that all those in favor responded and those opposed refrained from answering the questionnaire. It is thus important to share the findings with representatives of those countries that did not respond and to seek their comments in more detail.

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IMPLICATIONS OF THE STUDY

Based on our survey and our case studies we propose that intermittent ladder-level education for international students studying abroad is desirable, practical, and probably a must if brain drain is to be at a minimum.

In all, the respondents overwhelmingly supported the concept of intermittent ladder-level education and indicated activities already in place following this principle. It is thus important to continue the survey in more detail to develop sufficient background data so that some pilot projects could be developed for funding support of the approach in some of the countries that most strongly favor the approach. If one or more small-scale projects could be developed successfully, this would enable additional study regarding the desirability of the concept and, eventually, a growth of the concept.

CASE STUDIES

Our case studies show that many students naturally select intermittent ladder-level education. We are describing some cases below, which show that the concept does not require large-scale input of planning or finance. Mostly, sucess requires a keen desire on the part of the student to make it work and some flexibility by the educational provider and, sometimes, by government financial aid officers.

Because of the ladder level (A.S, B.S, Master's and Ph.D) curricula; the alternating components of work and study (Cooperative Education) which are integrated into the university's undergraduate curricula; a degree of flexibility in the curricula; and a degree of understanding for the international student's needs in developing countries by advisors, we have in Medical Laboratory Science at Northeastern University already observed valuable results of intermittent education for professionals working in developing nations. We will illustrate this by case studies of medical laboratorians and other health professionals who in one way or another followed a pathway of intermittent education while preparing for advancement in the medical laboratory field in a developing country.

Case Study 1 -A Nigerian student, who came to Northeastern University for the five year cooperative bachelor's level program in Medical Laboratory Science had during her fourth and fifth years the opportunity to return to Nigeria for a six month cooperative education work assignment. This did not only allow her to spend time with her children and her husband, who had returned earlier to Nigeria after his graduate studies at Harvard, but provided for her the opportunity to practice as a medical laboratorian in the bacteriology laboratory of the Baptist Hospital in Ogbomoso. She had had no previous work experience in a clinical laboratory before coming to the U.S. While working in the local hospital laboratory, she made some keen observations and came back to Northeastern University with a request for changes in her curriculum for her senior year. She petitioned the Academic Standing Committee to substitute a public health course for a computer course as the need for computer skills where she planned to work was at least 10 years away. She also asked for an opportunity to learn how to efficiently prepare bacteriological media. Her request to the Academic Standing Committee was granted.

Interested faculty were also able to arrange for her to learn methods of media preparation both in a hospital and a commercial setting, and to spend a period of time in a public health laboratory during the time between concluding her studies and taking the national certification examination. She returned to work as a bacteriologist at the same hospital where she worked as a co-op student. Presently she is the acting chief technologist at that hospital.

This student examplifies how work experience in the profession in the home country prior to conclusion of studies can be valuable in identifying specific needs for study and how these needs can be met by appropriate minor changes in the curriculum.

Case Study 2 - A medical laboratory technician with the equivalency of an associate degree from Iran and two years of experience as a health professional in the rural areas of Iran while serving in the Iranian army came to Northeastern University with the intent to complete a bachelor's degree in his profession. With careful academic planning he was able to complete these requirements in a shortened period at Northeastern University. Transfer credits were granted from his basic science courses in Iran and three other U.S colleges that he had briefly attended. His cooperative education work requirement was reduced because of the laboratory experience he had had in Iran. He was able to successfully complete by challenge examination professional course work otherwise not directly transferable and thereby complete basic course requirements in three major

professional areas (Hematology, Blood Banking and Urinalysis). During his senior year he undertook a research report comparing education and practice in Medical Laboratory Science in Iran and the U.S. This student's academic transfer of credits, including professional credits by challenge examination,indicates that such transfer is possible although not always practical.

This young man had had difficulty finding an appropriate program in the U.S. which would allow him to progress in his own professional area. When he found the right program he was able to complete it in a shortened period of time and use his previous background to complete courses in his major by challenge examination. In addition, his research project as a senior not only helped him address issues of re-entry after 4 years in the U.S., but gave faculty members an immense insight into the practice of medical technology in rural and urban Iran. This graduate returned to Iran where he married and is currently working as a teacher of Medical Laboratory Science. After a few years of experience he may return to the U.S. for graduate studies in order to prepare for a higher level position in the academic environment.

Case Study 3 - This German national had been working in laboratories in Botswana where her husband was a physician.Though her clinical laboratory skills were almost exclusively on the job training and mostly self taught, she did hold the equivalent of a bachelor's degree in Food Chemistry from the University of Bonn. She, her husband and young son, were to be in Boston for one year while her husband was to complete a Master's in Public Health. She came to us at the beginning of the academic year. A quick evaluation of her credentials indicated that with some luck in scheduling, direct transfer of credits, completion of some courses by examination (English by CLEP and Clinical Chemistry by departmental challenge examination and exemption of Orientation and Professional Dynamics courses)she could within her time limit complete an Associate in Science degree. Modification in the professional applied studies, allowed because of her previous experience, permitted her to get special training in tuberculosis identification and participate in a one week intensive workshop in parasitology. Again, this student was exempted from the cooperative education requirement because of laboratory experience in Africa.

She and her family are now back in Africa serving in a small hospital in Zimbabwe. This student knew from experience the education she needed. Within her limits of time we were able to provide it. This experience taught us that an associate degree level of Medical Laboratory Science Education can be as appropriate for the technologist in a rural area as for the larger city areas in developing nations. Before she left, we

spoke about her possible return for further study when she and her husband obtain their next furlough. With her previous educational background (the equivalent of a U.S. bachelor's degree) and her professional degree at an associate degree level in Medical Laboratory Science, she can enter the Medical Laboratory Science Master of Science program. With her determination it would not be surprising if she completed that in record time as well.

Case Study 4 - This young American woman was born to missionary parents serving in Thailand. After completing high school in Thailand, she came to the U.S. for her college education. Having completed a Bachelor of Arts degree, she decided to enter the medical laboratory science field. Having the appropriate science background, she could do so by completing a one year post baccalaureate hospital program. She entered the Carney Hospital which is affiliated with Northeastern University in that students in that program take the upper level lecture courses in medical laboratory science at Northeastern University. Having completed the post baccalaureate certificate, she then returned to Thailand to work as a medical technologist in a refugee camp on the Thai border for the next two years.Subsequently she came back to the U.S. to experience what it is like to work in a modern hospital laboratory and to brush up on skills she only learned as a student, in other words to keep up with the modern technology of her field. After these two years she returned to Thailand as a Peace Corps worker. She is currently working with the Thai government on a project of quality assurance for government hospital laboratories. She recently wrote requesting specific information on how to set up laboratory inspections. Her former professors were able to provide addresses to professional associations and the Center for Disease control that serves the U.S. in this area. But most importantly one of our graduates, with experience in public health and international interests initiated because of participating an international exchange has provided her with voluminous materials on quality assurance.

The professional path of this American medical technologist has been intermittent with a ladder-level approach. She has worked in a very primitive health care setting of a refugee camp. She came back to the U.S. to update her technical skills. She is now serving in an influential position. Her work experience benefits from exposure to differing levels of health care and her consequent professional contacts will help her in providing relevant materials for the vast undertaking with which she is now involved. There are no doubts that this baccalaureate graduate will have marked influence on laboratory practice in Thailand as she grows professionally. She has already influenced Thai nationals to investigate short term experiences in the U.S.that will bring needed laboratory skills to that country.

Case Study 5-An Azorian student gained a perspective of the medical laboratory science practices in her home country when she visited for a summer vacation after completion of her first year of study. In addition to visiting laboratories in Portugal, she volunteered in a local laboratory in the Azores. These experiences taught her that she wished to enter the management area in a private laboratory. Consequently she decided to complete an MBA in the U.S. following her bachelor's degree in medical laboratory science to better prepare for the business end of medical laboratory science.

Case Study 6 - Recently an Azorian student in the Associate degree program returned to her home country for three months of co-op work in a local private laboratory. While at home she investigated requirements for positions in government hospitals and realized that under current regulations she also needs to have a background in pharmacy if she is to advance in the laboratory field in Portugal. Her current plan is to work at home for a while after her associate degree, then return to the U.S. to complete a B.Sc. in pharmacy. Later she may take advanced studies in medical laboratory science.

Following are examples of how governments have influenced students to take the route of progressive intermittent education:

Case Study 7 - Government policy can encourage progressive intermittent education for its nationals. A nurse who received a Master's degree in Nursing from Boston University several years ago as a recipient of government funds was obliged to return to a teaching position in Iraq for five years. Now she has returned to the U.S. to complete her doctorate.

Case Study 8 - Another example of how government policy encourages progressive intermittent education is that of a locally educated nurse from Botswana who was initially sent to Singapore to complete her Bachelor of Science in Nursing. Later, while employed by the Ministry of Health, she was given a leave of absence to study at Boston University where she completed a Master's degree in Nursing. What an opportunity for multiple cross cultural and educational experiences! She returned to an influential position with the Ministry of Health in her country.

The following is an example of the value of even brief visits to the home country.

Case Study 9 - An example of the usefulness of even brief visits to the homeland for a developing professional is the case of a Syrian graduate student who returned home for six weeks. Not only did he renew ties with family and friends after some years abroad, but he visited several hospital and private laboratories as well as the Ministry of Health. During these visits he gained a perspective as to the kind of instrumentation available in clinical chemistry and hematology, his special interests. Having learnt about the extensive and impressive use of instrumentation inaboratories in Damascus he will now have a better idea of the courses he needs to complete for his doctorate. At the Ministry of Health he obtained information about requirements for establishing a private clinical laboratory in his country, a long-range goal for which he is now better equipped to plan.

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February 25, 1986

Dear Colleague:

Are you concerned about students from your country not returning home after study abroad?

Developing countries lose great numbers of students each year to "brain drain", i.e. students who do not return from abroad on completion of their study. This can be a very serious problem as the following examples will show: Taiwan lost 80,000 graduates in the last 30 years; India lost 47,000 in the 1965-75 decade alone, and 34,000 of these were engineers and medical doctors. The loss of 15,000 medical doctors working abroad in 1980 cost India $144,000,000 according to World Health Organization estimates (RIHED Bulletin, December 1983, p.18).

To combat the "brain drain", researchers recommend strengthening ties with the home country, a major incentive being the possibility of developing a career at home. We at Northeastern University have developed a research project to test this idea.

We propose to evaluate how an intermittent curriculum could aid in strengthening ties with the home country. We define intermittent curriculum as an educational plan which incorporates associate, baccalaureate, master's and doctorate level degrees and intersperses the study toward these degrees with periods of work in the home country. We believe, for example, that the Medical Laboratory Science program at Northeastern University, which includes these four levels of study, can serve as a model for providing relevant levels of study for internationals planning to return home.

Intermittent education for the preparation of health professionals in a developing country would allow the individual to strengthen ties with the home country and to establish a professional growth path at home. Such graduates would be serving their nation in a relevant manner and developing their potential while the profession in their country grows.

We have the support of the National Association for Foreign Student Affairs, a professional association of administrators and educators serving internationals in the U.S.A., in investigating this thesis. We need your assessment of whether such a program is practical for implementation in your country. We would appreciate your completing the attached questionnaire and returning it to us by March 7, 1986. Should you wish to receive a summary of our findings, please let us know.

We appreciate your time, interest and effort.

Sincerely,

Britta Karlsson
Associate Professor
Medical Laboratory Science

Solveig Turner
Director
Center for International Higher Education Documentation

Northeastern University

360 Huntington Avenue, Boston, Massachusetts 02115

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QUESTIONNAIRE

Practicality of Intermittent Study Programs for Health Professionals in the Middle East and Africa

I. Your name:_____ Your country:_____

Address: _____

Telephone:_____

Your Official Status: Government official Yes ☐ No ☐

If YES, indicate: Ministry of Health ☐

Ministry of Education ☐

Other (specify):_____

Indicate position:_____

If NO, indicate organization you work for:_____

Your position:_____

II. Do you think it is useful for students to return to their home country for practical work experience after study abroad to help fulfill current manpower needs prior to going on to obtain more advanced degrees abroad?

No ☐ Yes ☐; if YES, between Associate's and Bachelor's degrees ☐

between Bachelor's and Master's degrees ☐

between Master's and Doctor's degrees ☐

Why?_____

_____ (If answer was "NO", go to Question I

III. If YES above, in your opinion which health profession disciplines (e.g. medical laboratory science, pharmacy, nursing) would benefit from such an approach?

_____

_____

IV. Do you see any short or long term positive aspects to establishing such an approach for advanced studies in the health professions?

Short term benefits: Yes ☐ No ☐ Long term benefits: Yes ☐ No ☐

Comments:_____

_____

(continued)

V. Do you see any short or long term negative impact from establishing such an approach? Short term problems: Yes ☐ No ☐

Long term problems: Yes ☐ No ☐

Comments: _____

_____

_____

VI. In your opinion would graduates be more likely to return to their home country after short periods of study abroad than after long periods?

a) More likely to return after short periods: ☐

b) More likely to return after long periods: ☐

c) No difference: ☐

Comments: _____

_____

VII. Do you agree or disagree that an intermittent program interspersed with periods of work at home would give them continuing thorough knowledge of their profession at home; thus graduates should have an easier time integrating what they learned abroad?

Agree ☐ Disagree ☐

Comments: _____

_____

_____

VIII. Are you aware of any government policy in your home country that encourages the intermittent approach to study abroad? Yes ☐ No ☐

Please describe the policy: _____

_____

IX. Are you aware of any policy that could prevent such an approach? Yes ☐ No ☐

Please describe the policy: _____

_____

X. Would you support the development of an intermittent approach to study abroad for your country? Yes ☐ No ☐

Comments: _____

_____

_____

XI . What other recommendations would you make regarding our thesis? _____

_____

_____

PLEASE RETURN by March 1, 1986, to:
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THANK YOU

Northeastern University

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617-437-2770

STUDENT QUESTIONNAIRE

Practicality of Intermittent Study Programs for Health Professionals in the Middle East and Africa

I. Your name:_____ Your country:_____

Address:_____

Telephone:_____

Indicate status --- Student? ☐

Visiting scholar? ☐

Other? ☐ Explain:_____

_____

Indicate your major or profession:_____

Do you hold a government, university or professional position at home?

Yes ☐ Explain:_____

No ☐

II. Do you think it is useful for students to return to their home country for practical work experience after study abroad to help fulfill current manpower needs prior to going on to obtain more advanced degrees abroad?

No ☐

Yes ☐ ---between Associate and Bachelor's degrees ☐

---between Bachelor's and Master's degrees ☐

---between Master's and Doctoral degrees ☐

Why?_____

_____ (If answer is "NO", go to Question IV)

III. If YES, in your opinion which health profession disciplines (e.g., medical laboratory science, pharmacy, nursing) would benefit from such an approach?

_____

_____

IV. Do you see any short or long term positive aspects to establishing such an approach for advanced studies in the health professions?

Short term benefits Yes ☐ No ☐ Long term benefits Yes ☐ No ☐

Comments:_____

_____

(over)

V. Do you see any short or long term negative impact from establishing such an approach? Short term benefits Yes ☐ No ☐

Long term benefits Yes ☐ No ☐

Comments: _____

_____

_____

VI. As a graduate, would you be more likely to return home to your home country after short periods of study abroad than after long periods?

a) More likely to return after short periods ☐

b) More likely to return after long periods ☐

c) No difference ☐

VII. Do you agree or disagree that intermittent programs abroad give you an opportunity to determine the needs of your profession before going on to advanced study? Agree ☐ Disagree ☐

Comments: _____

_____

_____

VIII. Do you agree or disagree that an intermittent program interspersed with periods of work at home would give you continuing thorough knowledge of your profession at home, and thus you should have an easier time integrating what you learned abroad? Agree ☐ Disagree ☐ Comments: _____

_____

_____

IX. Are you aware of any government policy in your home country that encourages the intermittent approach to study abroad? Yes ☐ No ☐

Please describe the policy: _____

_____

_____

X. Are you aware of any policy that could prevent such an approach?

Yes ☐ No ☐ Please describe the policy: _____

_____

_____

XI. Would you support the development of an intermittent approach to study abroad for your country? Yes ☐ No ☐ Comments: _____

_____

_____

XII. What other recommendations would you make regarding our thesis? _____

_____

_____

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THANK YOU